What is Claimed Is:

1. Apparatus suitable for manipulating flow characteristics within a blood vessel, the apparatus comprising:

a catheter having proximal and distal ends, a distal inlet port, a lateral surface, and a lumen extending between the proximal and distal ends;

an occlusive member affixed to the distal end of the catheter; and

at least one intake port disposed in the lateral surface proximal to the occlusive member, the blood intake port configured to induce venturi-assisted retrograde flow in a treatment vessel via the distal inlet port.

2. The apparatus of claim 1 wherein the occlusive member is inflatable and includes a tapered surface that communicates with the lumen.

3. The apparatus of claim 2 wherein the occlusive member is adapted to be disposed within the ostium of a treatment vessel.

4. The apparatus of claim 2 wherein the occlusive member further serves as an inflatable cuff.

5. The apparatus of claim 1 wherein the occlusive member comprises a self-expanding woven mesh having a contracted state suitable for transluminal insertion and an expanded state suitable for occluding antegrade flow in a treatment vessel.

6. The apparatus of claim 5 wherein the occlusive member has a rounded configuration and an internal lip.

7. The apparatus of claim 5 wherein the occlusive member comprises a plurality of split ends coated with an elastomeric coating.

8. The apparatus of claim 1 further comprising:

a piston disposed for longitudinal motion within the catheter; and

a flexible sheath affixed at a distal location to the piston and affixed at a proximal location to the catheter, so that proximally retracting the piston within the catheter causes the flexible sheath to form a balloon-shaped occlusive member.

9. The apparatus of claim 1 wherein the blood intake port has edges having variable angle configurations.

10. The apparatus of claim 1 wherein the blood intake port is disposed at an angle with respect to the catheter body.

11. The apparatus of claim 1 wherein the blood intake port has a pattern selected to enhance blood flow into the blood intake ports.

12. The apparatus of claim 1 wherein the catheter further comprises at least one deployable section, the deployable section having an expandable

state wherein the proximal edges of the blood intake ports are raised with respect to the catheter body.

13. The apparatus of claim 1 wherein the blood intake port is circular.

14. The apparatus of claim 1 wherein the blood intake port is a slot.

15. The apparatus of claim 1 wherein the catheter further comprises a flexing member that separates a distal catheter section comprising the distal occlusive member and a proximal section comprising the blood intake port.

16. The apparatus of claim 15 further comprising a shape memory member having an expanded state suitable for bending the flexing member to form a substantially acute angle between the proximal and distal sections.

17. The apparatus of claim 1 further comprising:

an outer sheath; and

a hood, the hood being provided in a contracted state within the outer sheath and having an expanded state suitable for guiding blood flow into the blood intake port.

18. A method for removing emboli during a medical procedure and manipulating flow characteristics in a treatment vessel, the method comprising:

providing apparatus comprising a catheter having proximal and distal ends, a lumen extending

therethrough, an occlusive member affixed to the distal end, and at least one blood intake port disposed in a lateral surface of the catheter;

positioning the distal end of the apparatus in at least an ostium of the treatment vessel proximal to a stenosis; and

deploying the occlusive member to prevent communication between the host and treatment vessels, such that a distal portion of the lumen communicates with flow in the treatment vessel.

19. The method of claim 18 wherein deploying the occlusive member further comprises:

providing a piston capable of longitudinally moving within the lumen of the catheter, and further providing a flexible sheath that is affixed at a distal location to the piston and affixed at a proximal location to the catheter; and

proximally retracting the piston within the catheter to compress air within the sheath to form a balloon-shaped occlusive member.

20. The method of claim 18 further comprising:

controlling fluid flow from a host vessel into the lumen of the catheter via the blood intake port; and

channeling the fluid within the lumen in a direction downstream toward the proximal end of the catheter.

21. The method of claim 20 wherein channeling fluid downstream induces venturi-assisted retrograde flow in the treatment vessel.

22. The method of claim 20 further comprising performing a medical procedure to treat a lesion in the treatment vessel.

23. The method of claim 22 further comprising directing emboli generated during the medical procedure into the lumen of the catheter.

24. The method of claim 22 wherein controlling fluid flow into the lumen further comprises:

providing an inner sheath having at least one opening within the catheter; and

actuating the inner sheath to allow the opening to overlap a selected amount with the intake port.

25. The method of claim 24 wherein actuating the inner sheath comprises rotating the inner sheath within the catheter relative to its longitudinal axis.

26. The method of claim 24 wherein actuating the inner sheath comprises longitudinally sliding the inner sheath within the catheter.

27. The method of claim 20 wherein controlling fluid flow into the lumen further comprises:

providing a flexing member positioned proximal to the occlusive member, the blood intake port positioned proximal to the flexing member, and a shape memory member that is initially retracted;

deploying the shape memory member to flex the flexing member to provide a substantially acute angle between the occlusive member and the intake port; and

deploying the occlusive member proximal to a stenosis in a treatment vessel to anchor the distal end of the catheter.

28. The method of claim 27 further comprising proximally retracting a tensioning member affixed to a distal point within the lumen to bend the flexing member to increase the substantially acute angle.